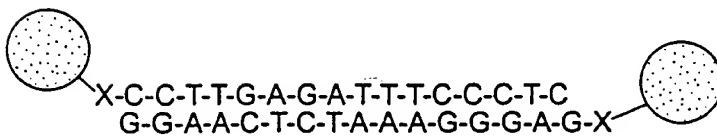
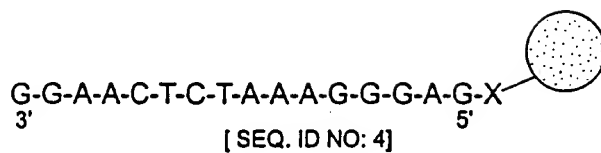
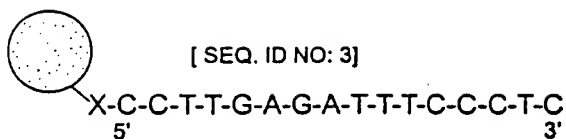


FIG. 1



002500-1000

FIG.2

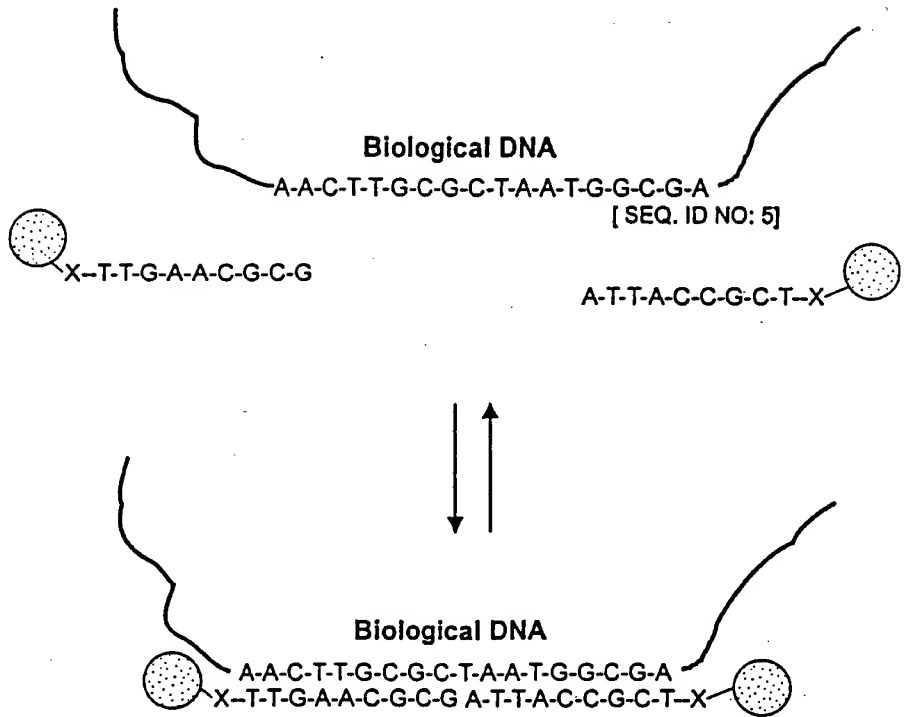
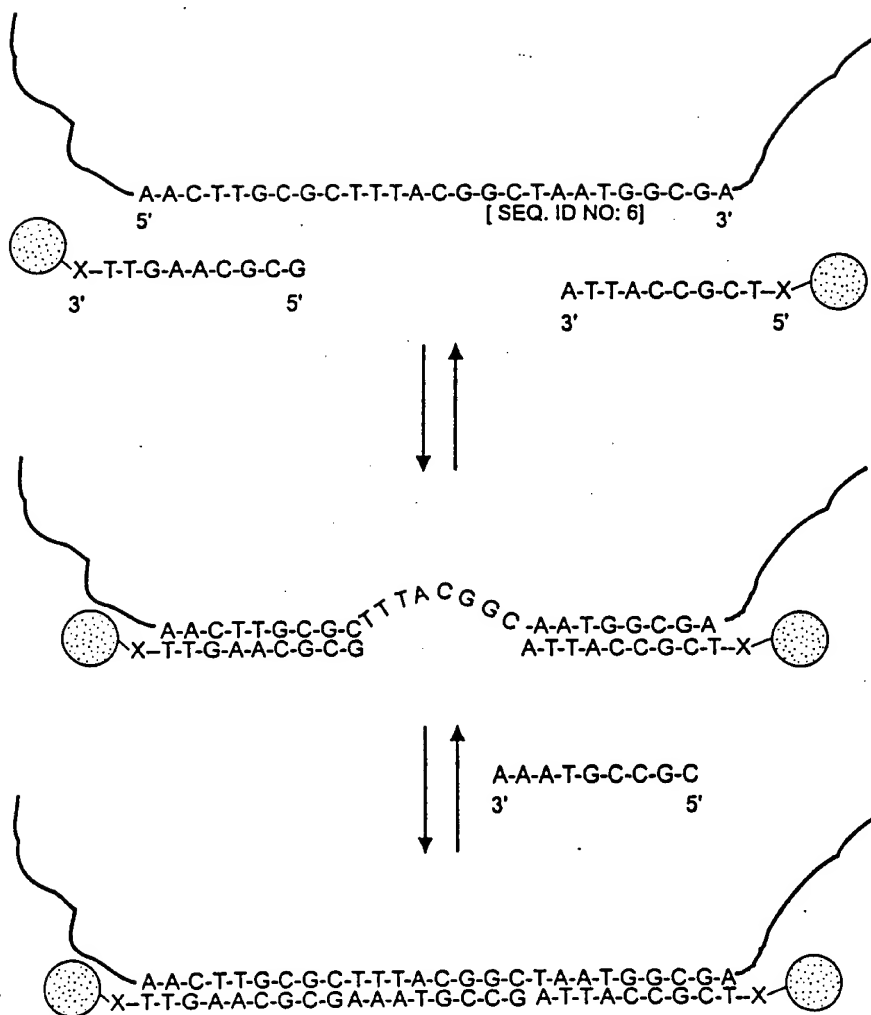


FIG.3



0076263-101304

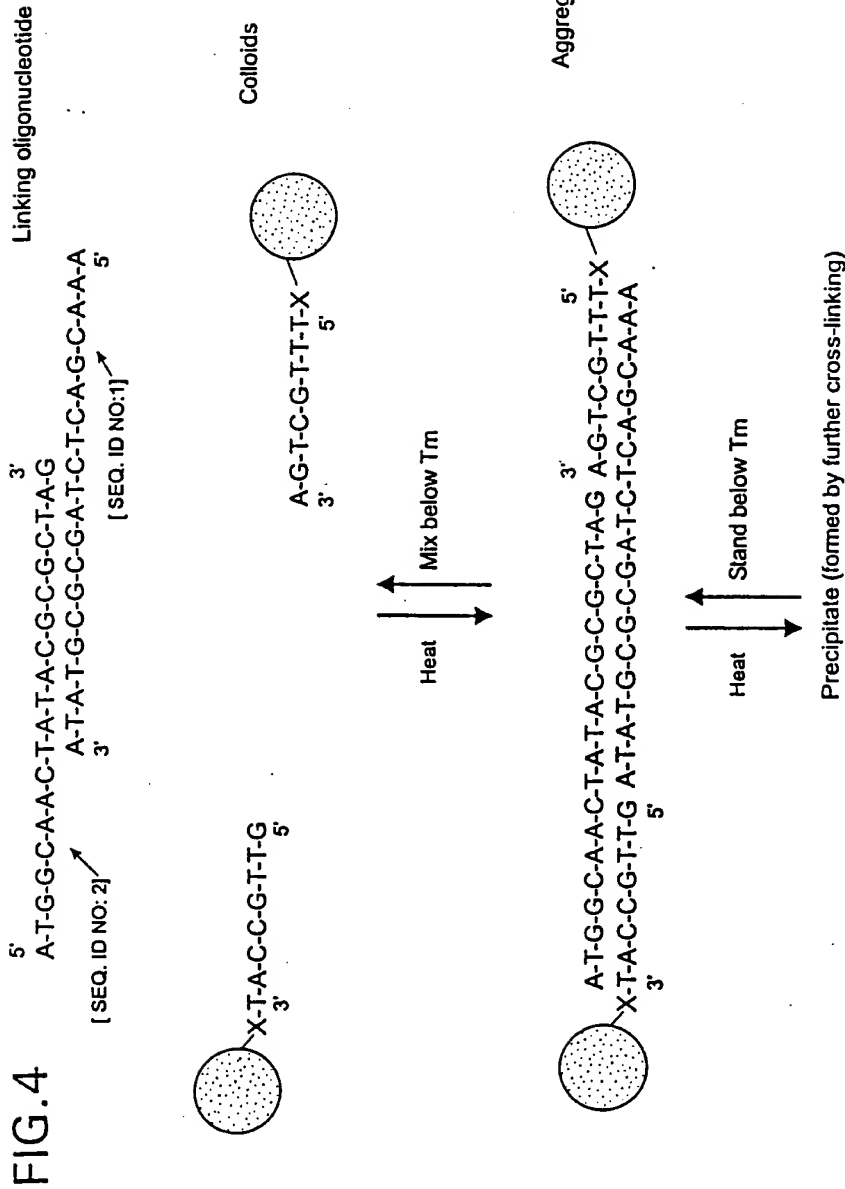
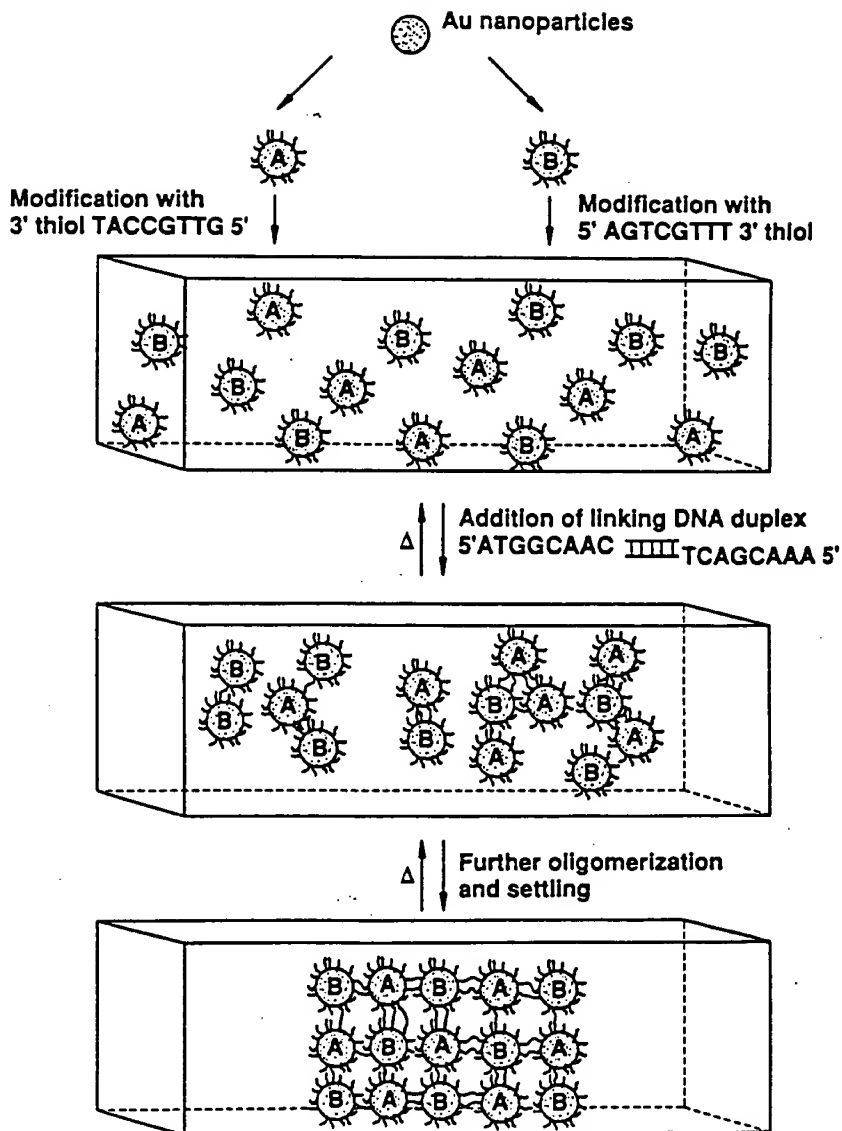


FIG.5



2025-09-24 10:00:00



FIG. 6A FIG. 6B FIG. 6C

FIG.7

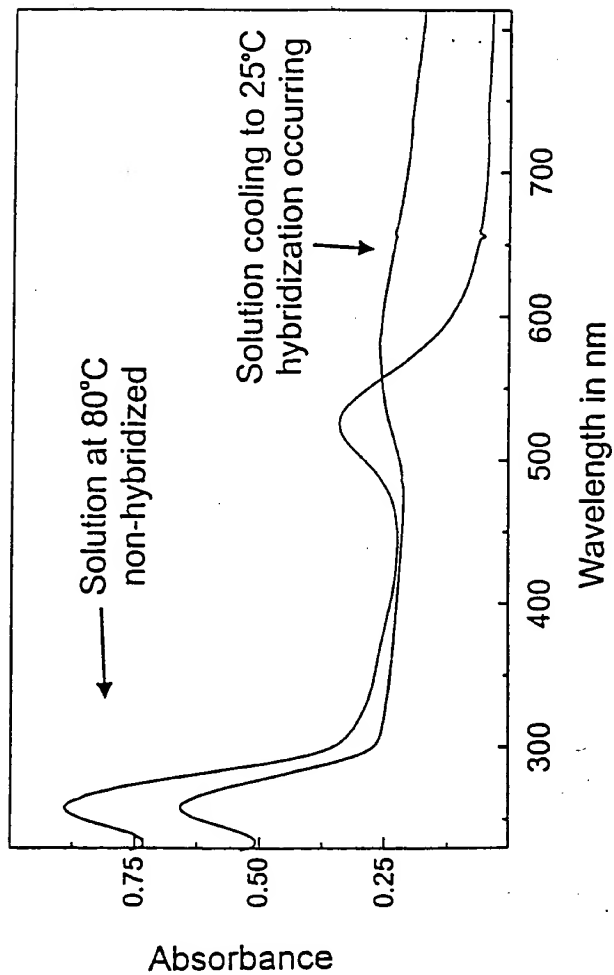


FIG.8A

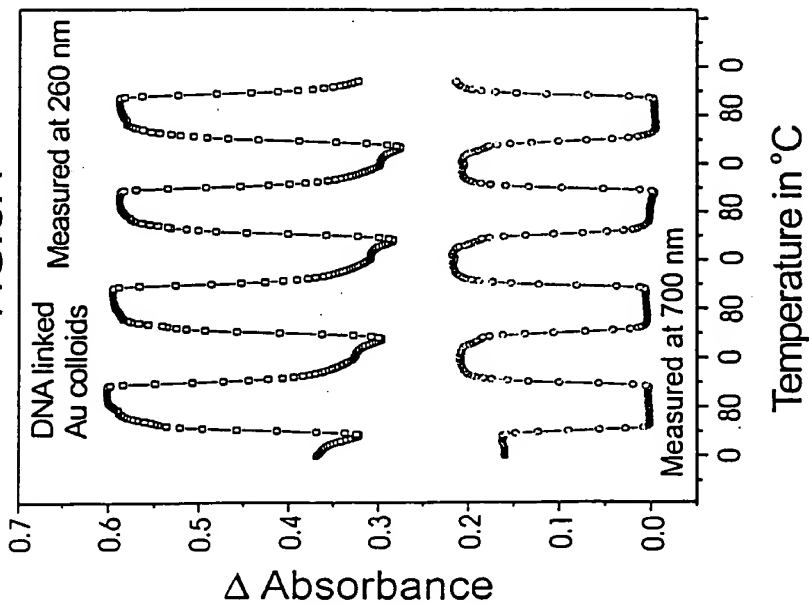
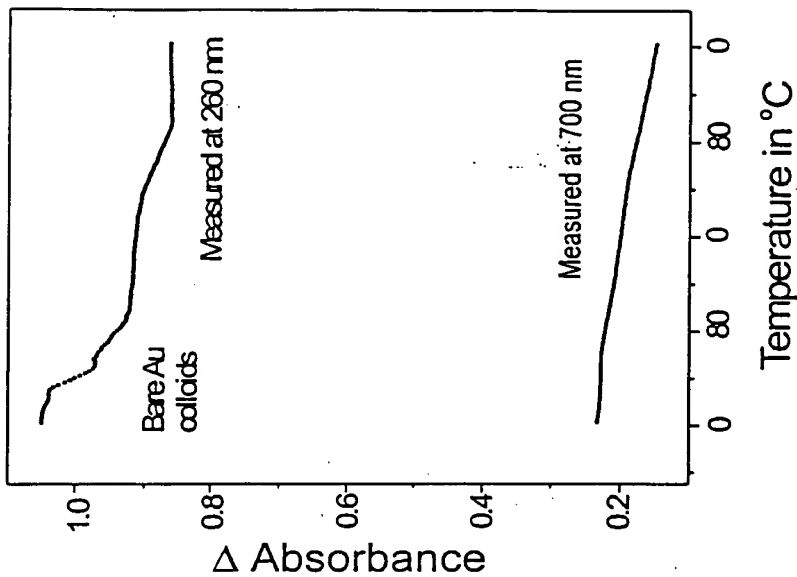


FIG.8B



00976863-101604



FIG.9A

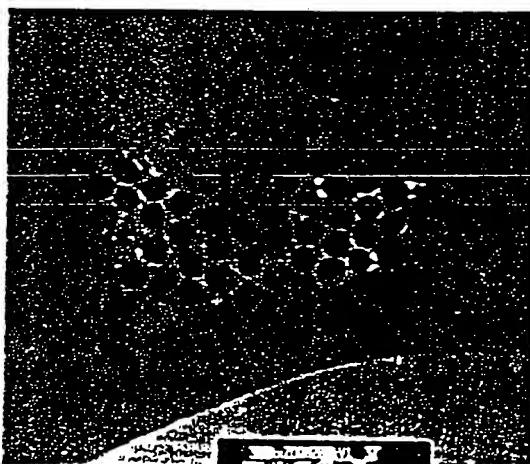


FIG.9B

FIG.10

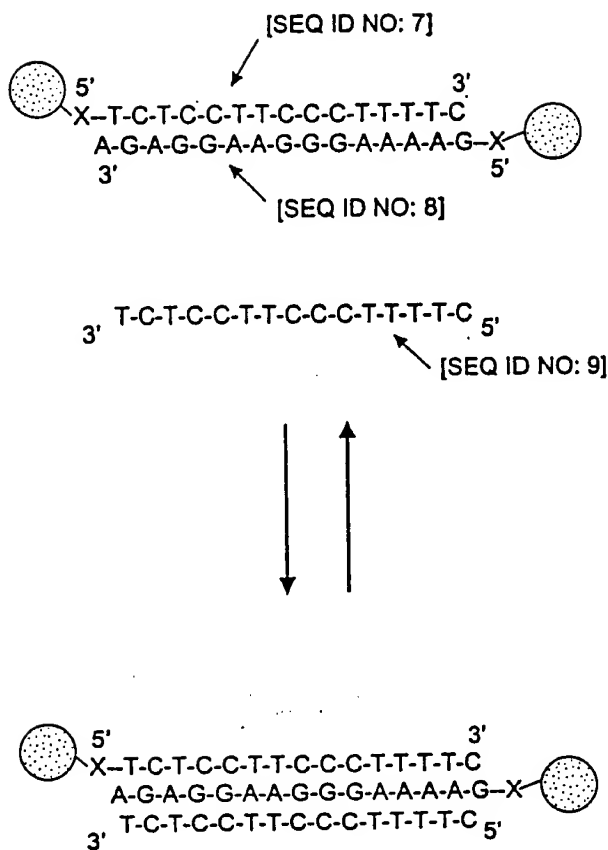


FIG. 11

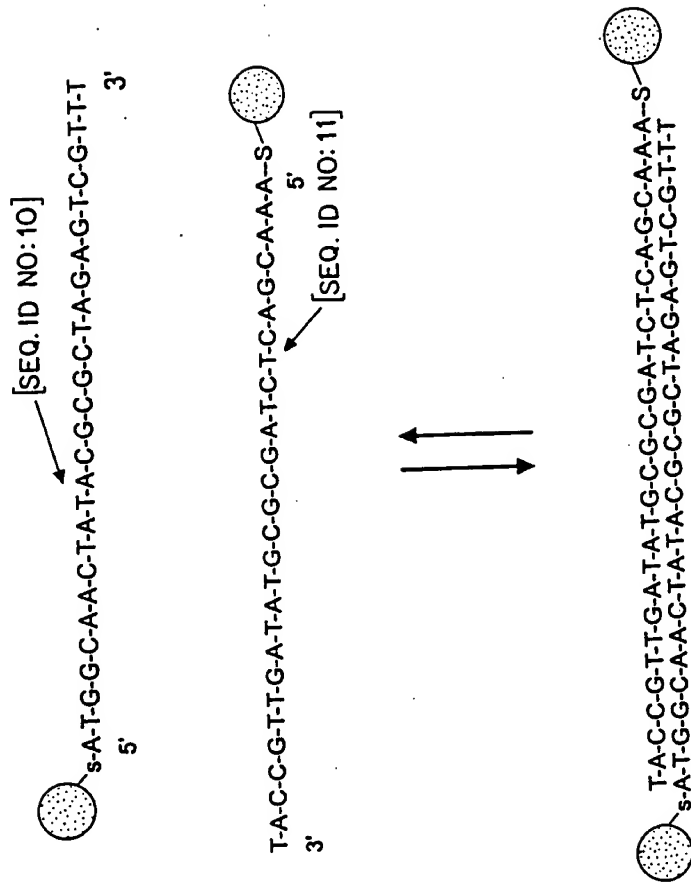


FIG. 12A

Complementary Target

[SEQ. ID NO:12]

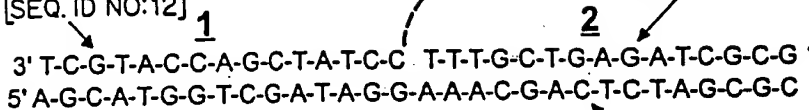


FIG. 12B

Probes without Target

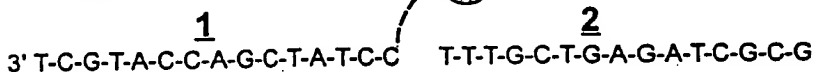


FIG. 12C

Half Complementary Target

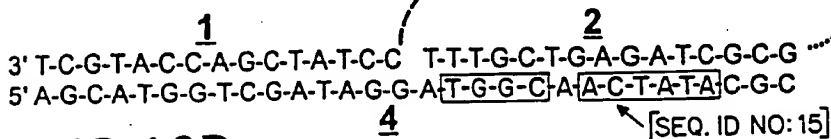


FIG. 12D

Target - 6 bp

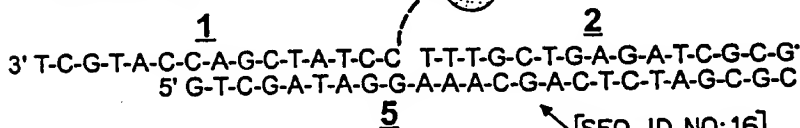


FIG. 12E

One bp Mismatch

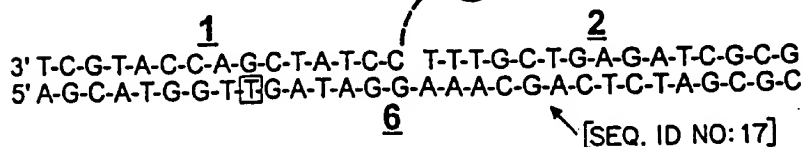


FIG. 12F

Two bp Mismatch

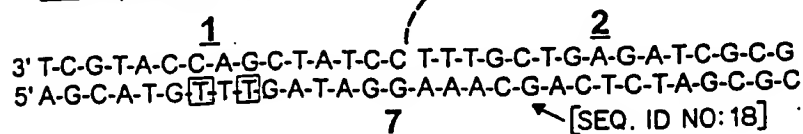


FIG.13A

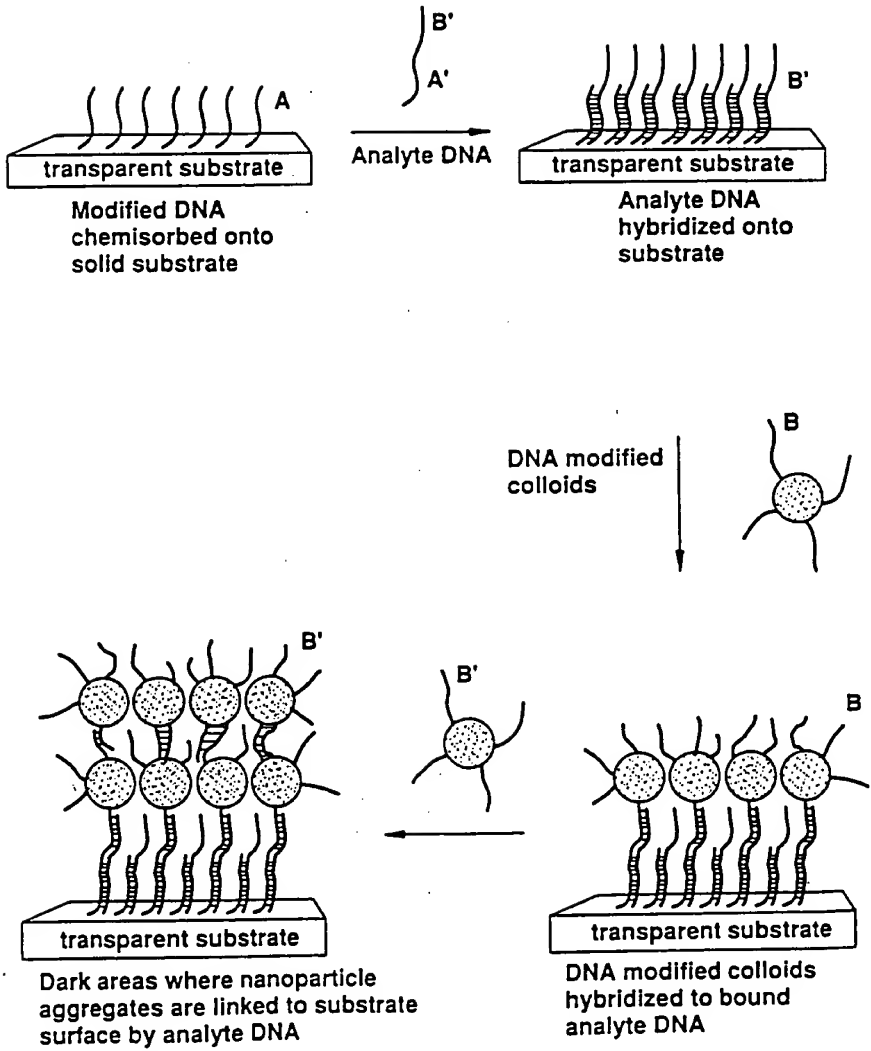


FIG.13B

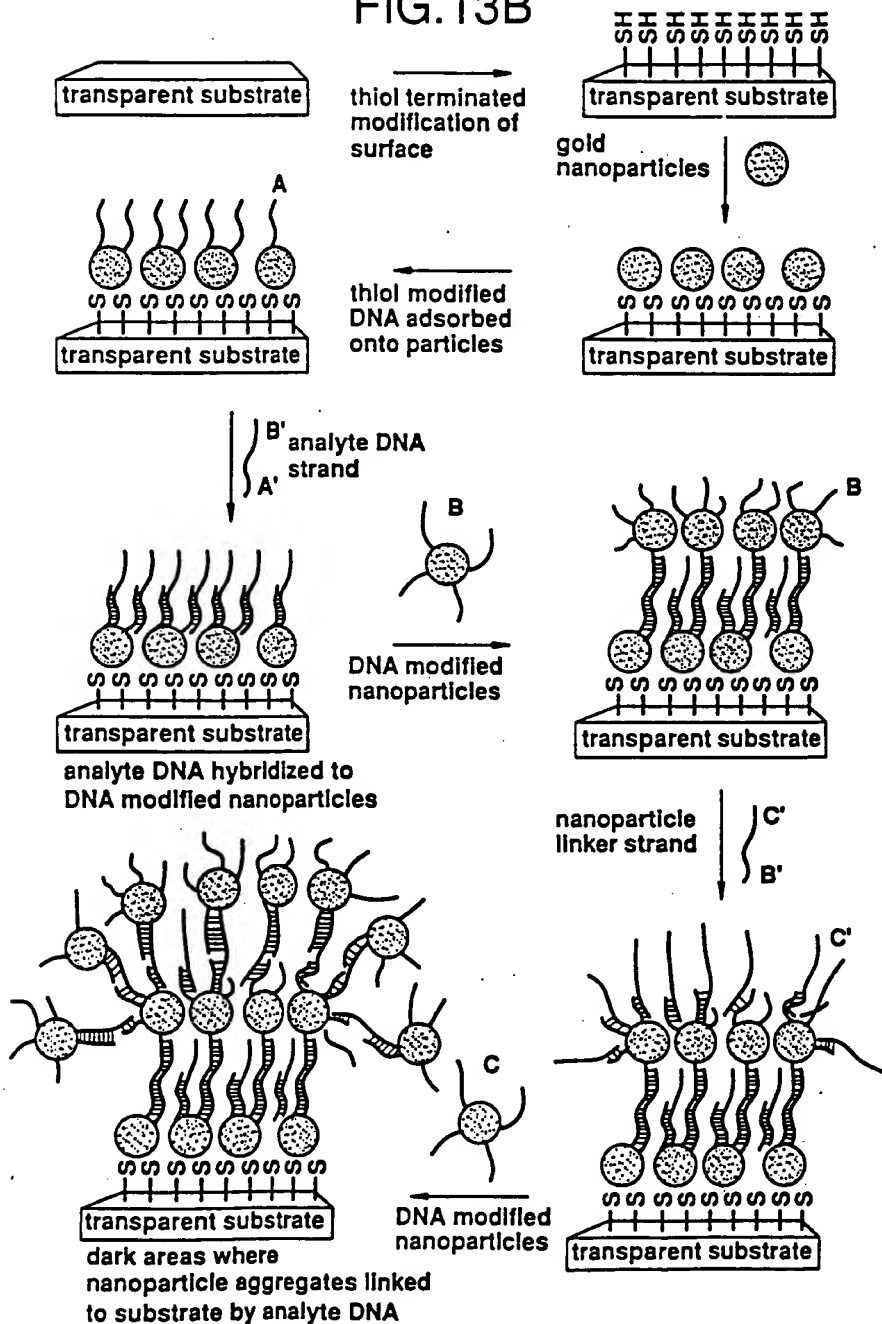


FIG.14A

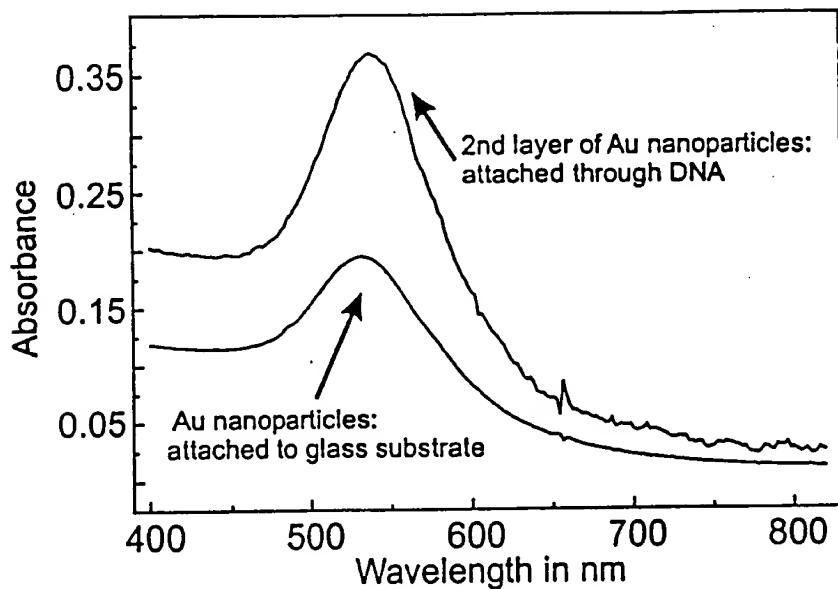
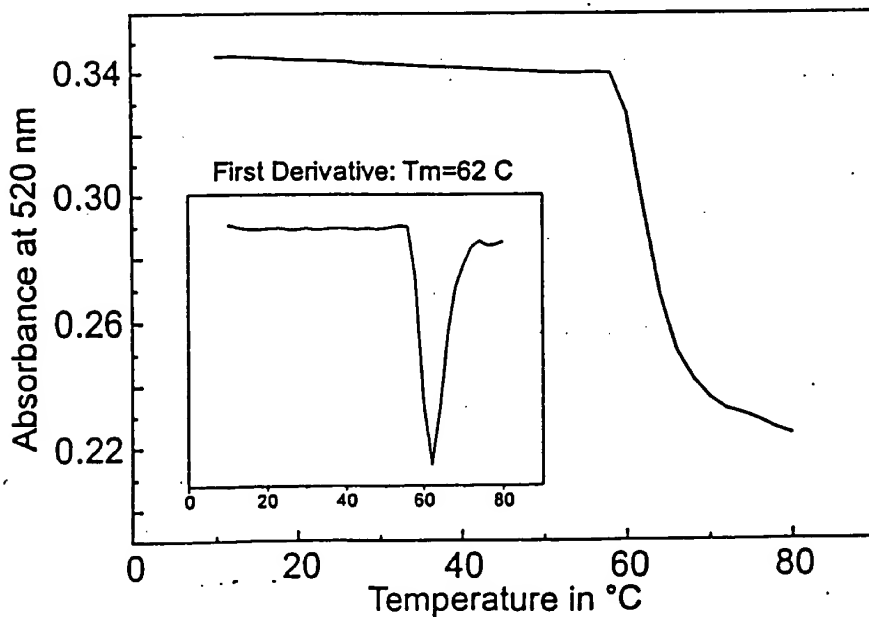


FIG.14B



Probes with No Target

- SEQ ID NO:20



3 **SEQ ID NO:21**



T_m=53.5°C



T_m=50.4°C



T_m=46.2°C



T_m=51.6°C



T_m=50.2°C

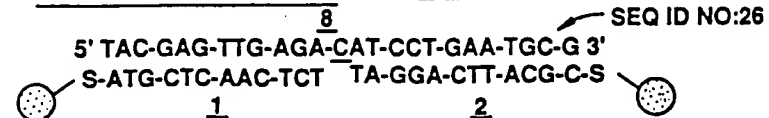


FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S —
 1 2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CCG-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S —
 1 2

FIG. 16C

72 Base Template with Complementary 48 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CCG-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GCG-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S —
 1 2

FIG. 17A

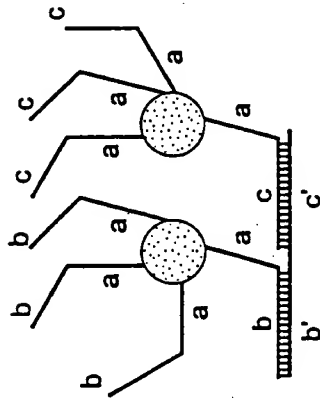


FIG. 17B

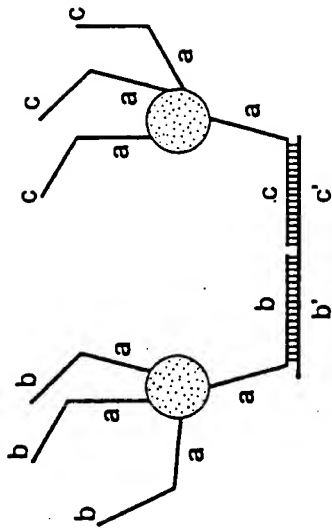


FIG. 17C

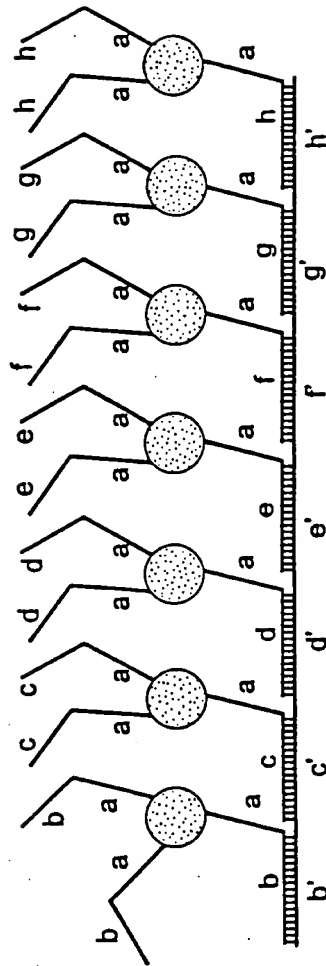


FIG. 17D

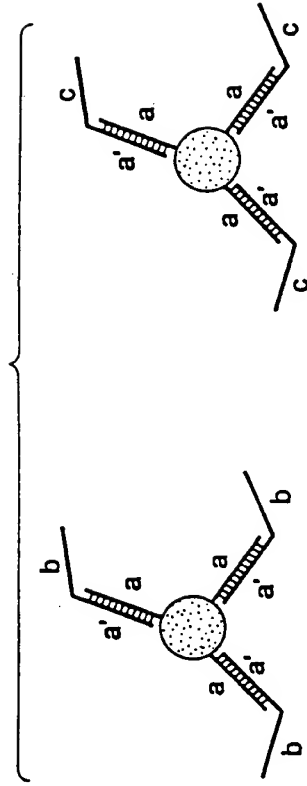


FIG. 17E

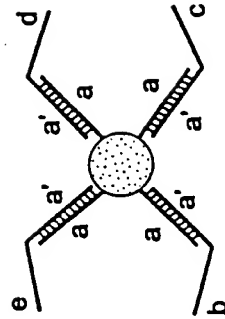


FIG.18

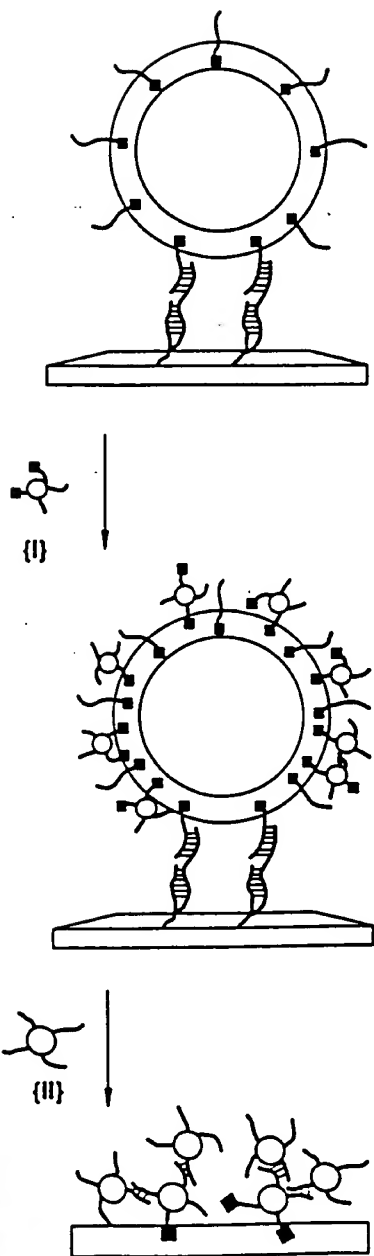


FIG.19A

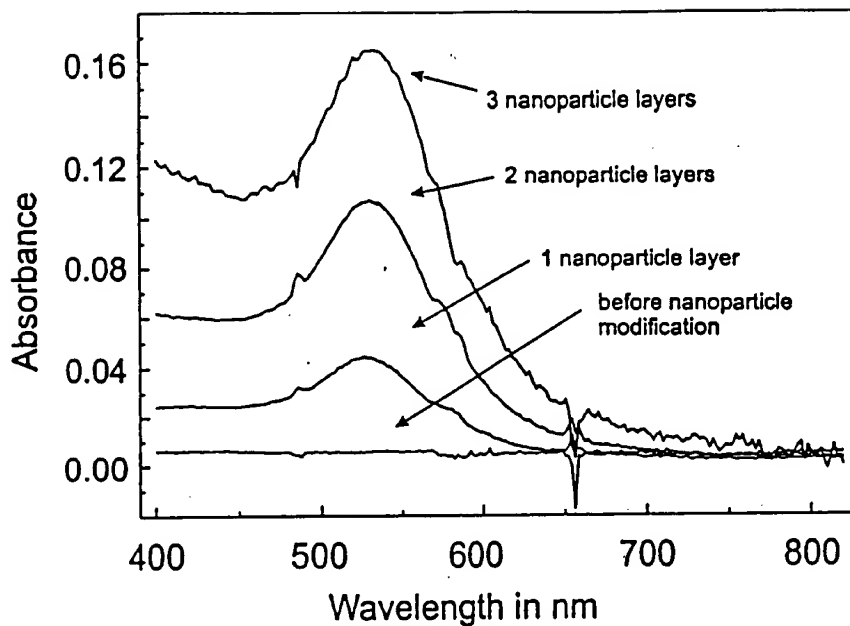


FIG.19B

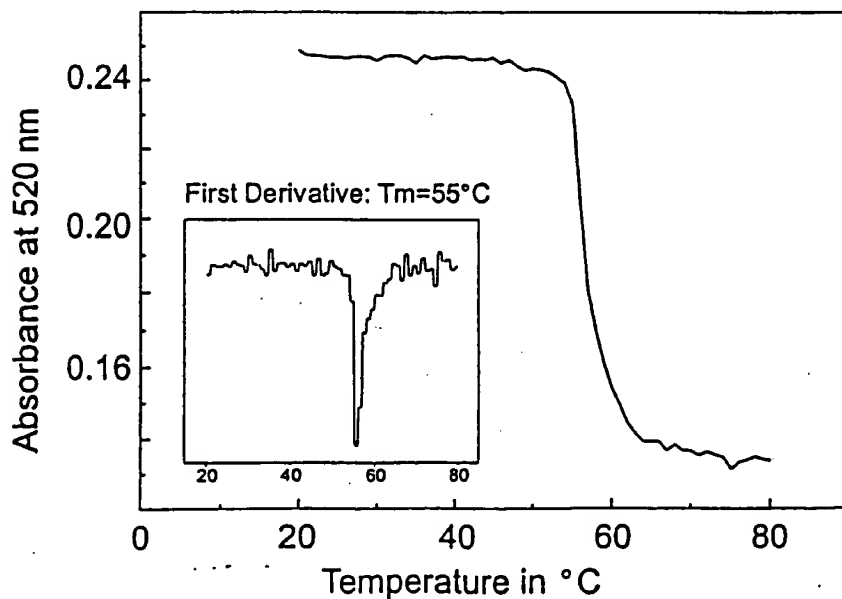


FIG.20A

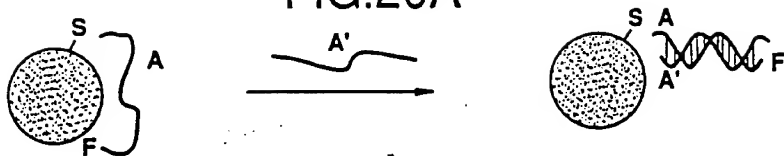
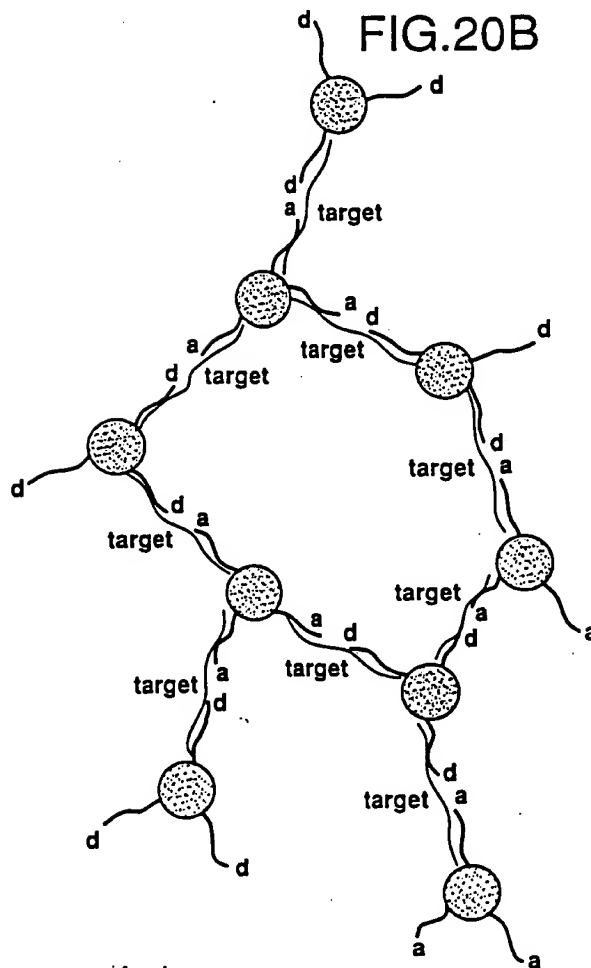
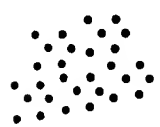


FIG.20B



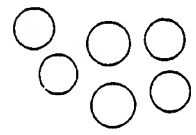
00976563-101694

Oligonucleotide
modified Au
nanoparticle probes



Red

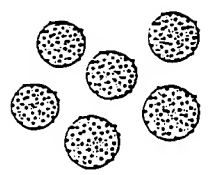
Fluorophore labeled
oligonucleotide modified
latex probes



White/Fluorescent

Target
Oligonucleotide

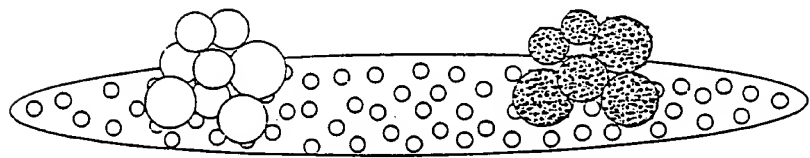
Au/Latex hybrid



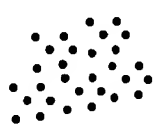
Pink/Non-fluorescent

No Target
Oligonucleotide

Target
Oligonucleotide



All Au probes pass
through membrane

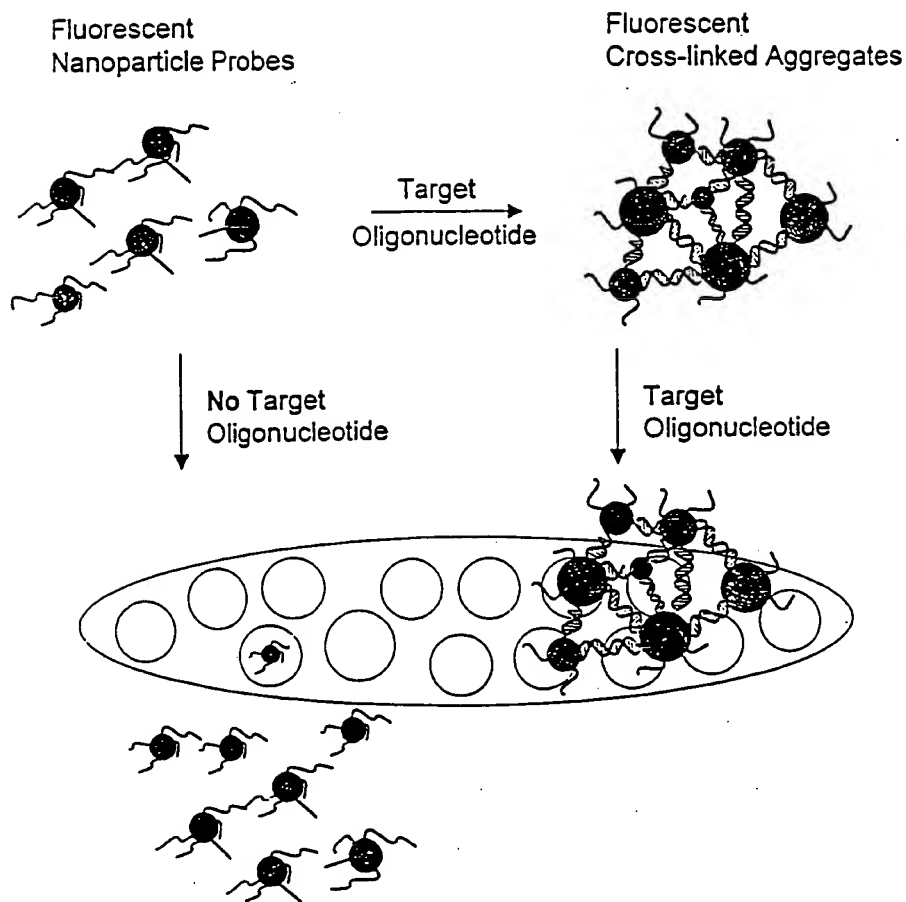


Excess Au probes
pass through
membrane



FIGURE 21

FIGURE 22



The fluorescent nanoparticle probes pass through the membrane

The fluorescent cross-linked aggregates are retained by the membrane

Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA

TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT

ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

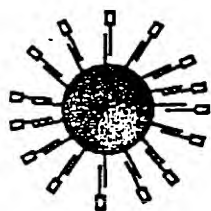
141 mer Anthrax PCR product [SEQ ID NO: 36]



Blocker Oligonucleotides

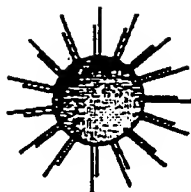
3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT	[SEQ ID NO: 39]
3' A TCT CTT CAT TAA TTA AGC AGT TGT	[SEQ ID NO: 40]
3' TAT TCT TTT TAT AAT AGG TCC CAA TAT	[SEQ ID NO: 41]
3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA	[SEQ ID NO: 42]

FIGURE 23



Satellite Probe

Target
→



Detection Signal

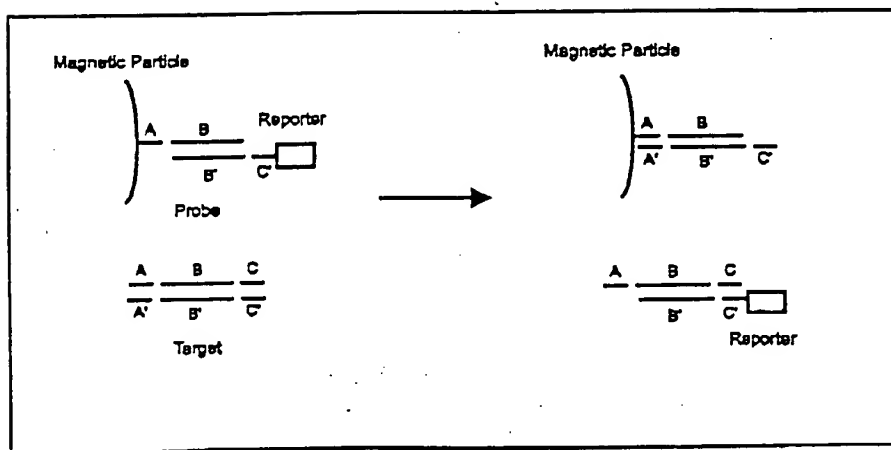


FIGURE 24

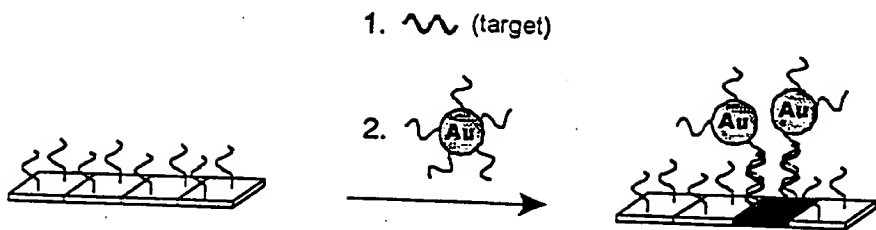


FIGURE 25A

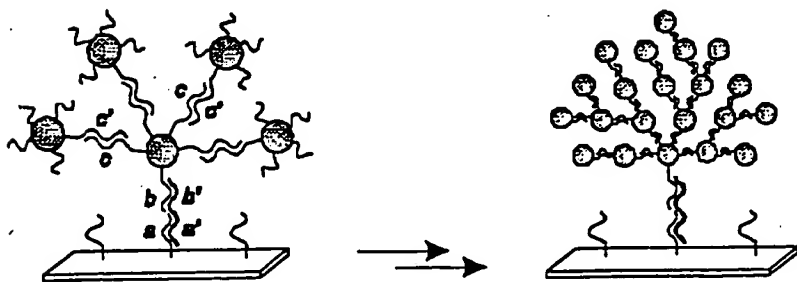
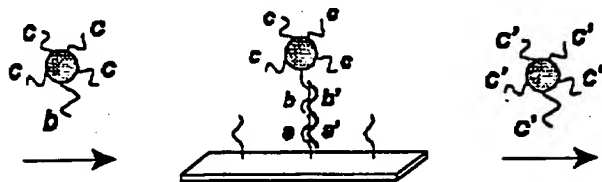
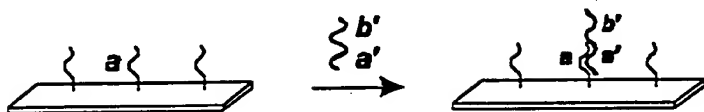
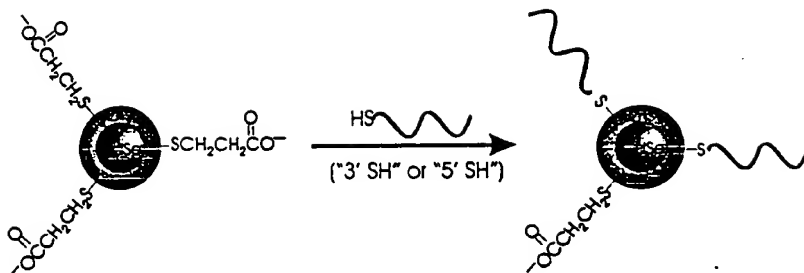


FIGURE 25B

A



B

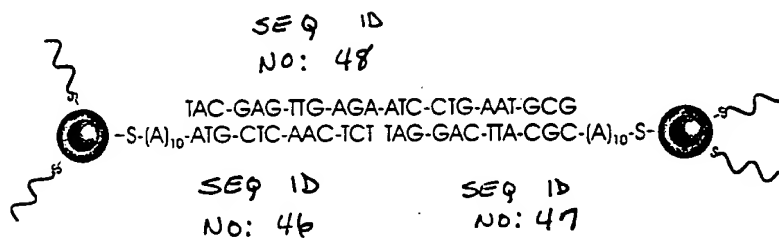


FIGURE 26

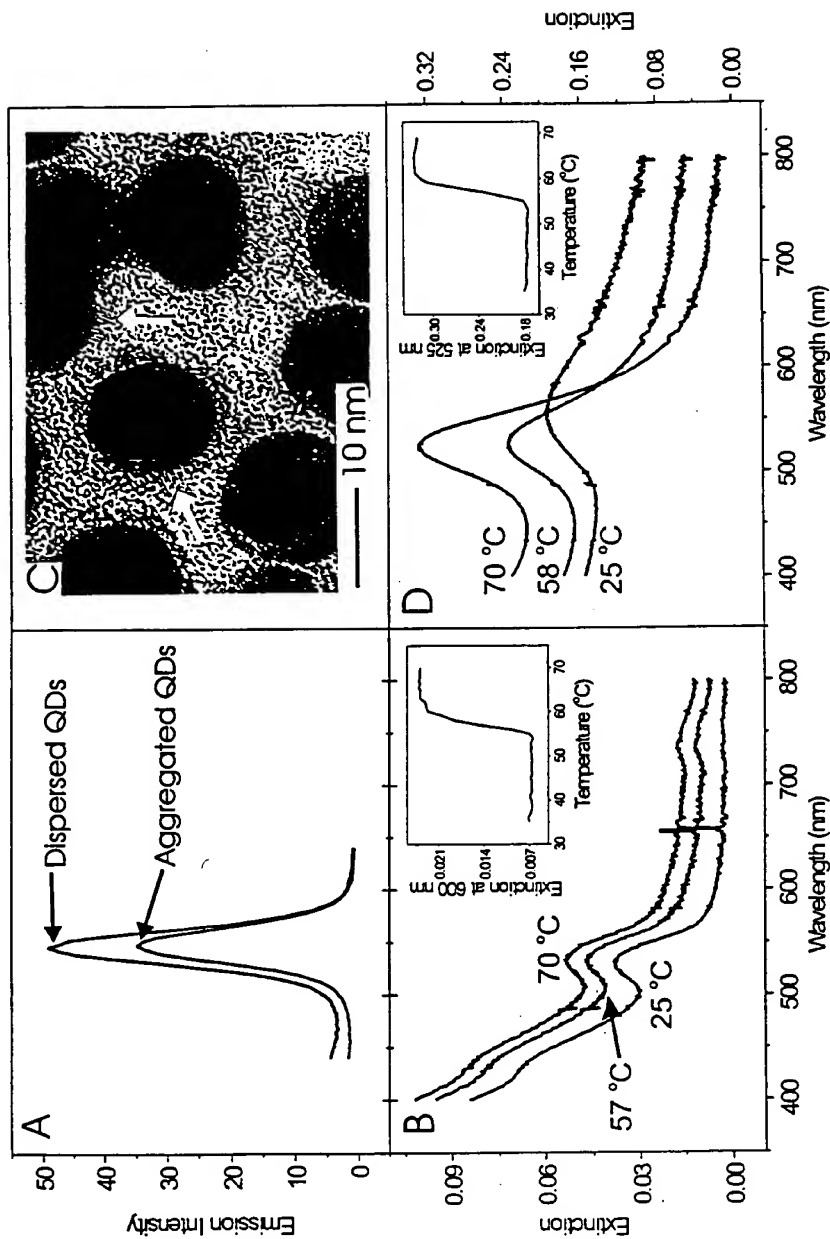


FIGURE 27

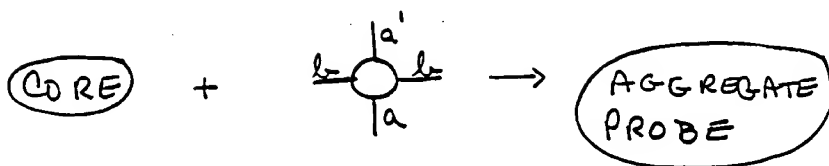
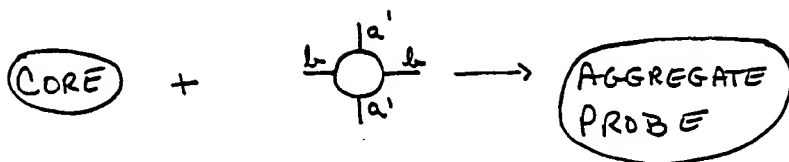
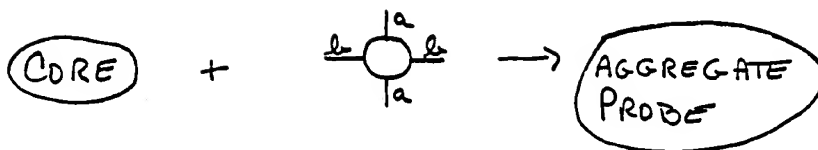
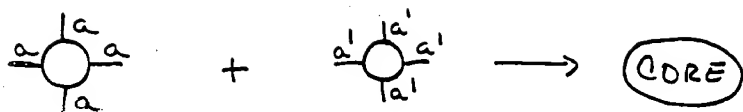


FIGURE 28A

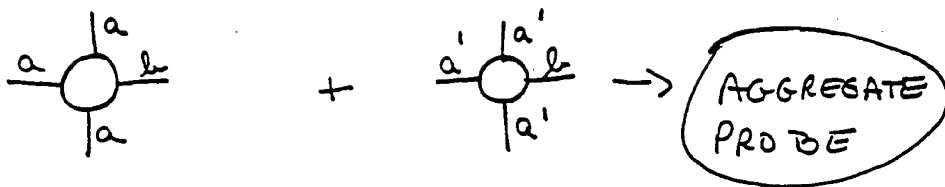


FIGURE 28B

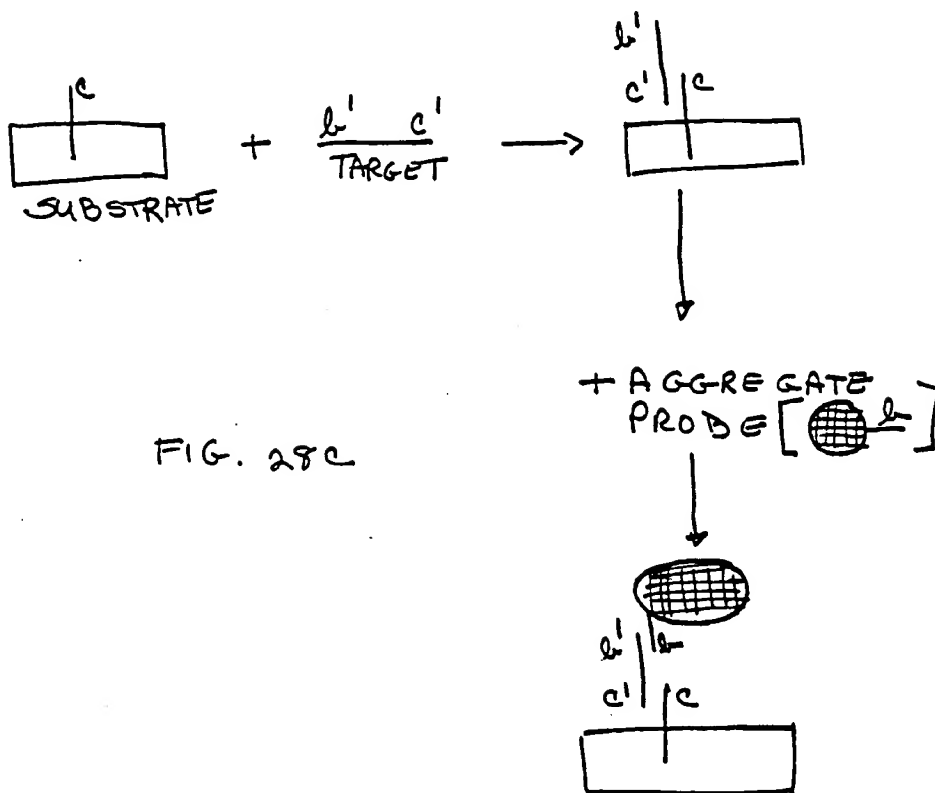




FIG. 28C

05076053-101204


 AGGREGATE
 PROBE

+ $\frac{b'}{c'}$ TARGET + 

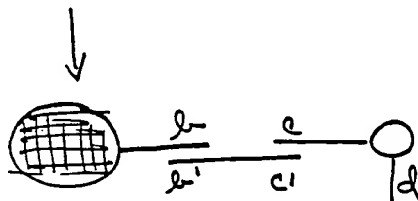

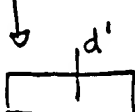
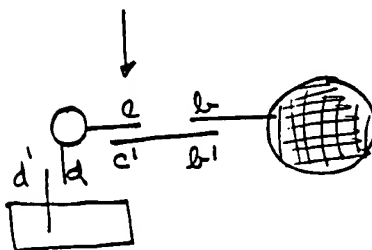


FIG. 28D

REMOVE EXCESS 
 BY CENTRIFUGATION

+  SUBSTRATE



09076663 40434
F02707 00092680

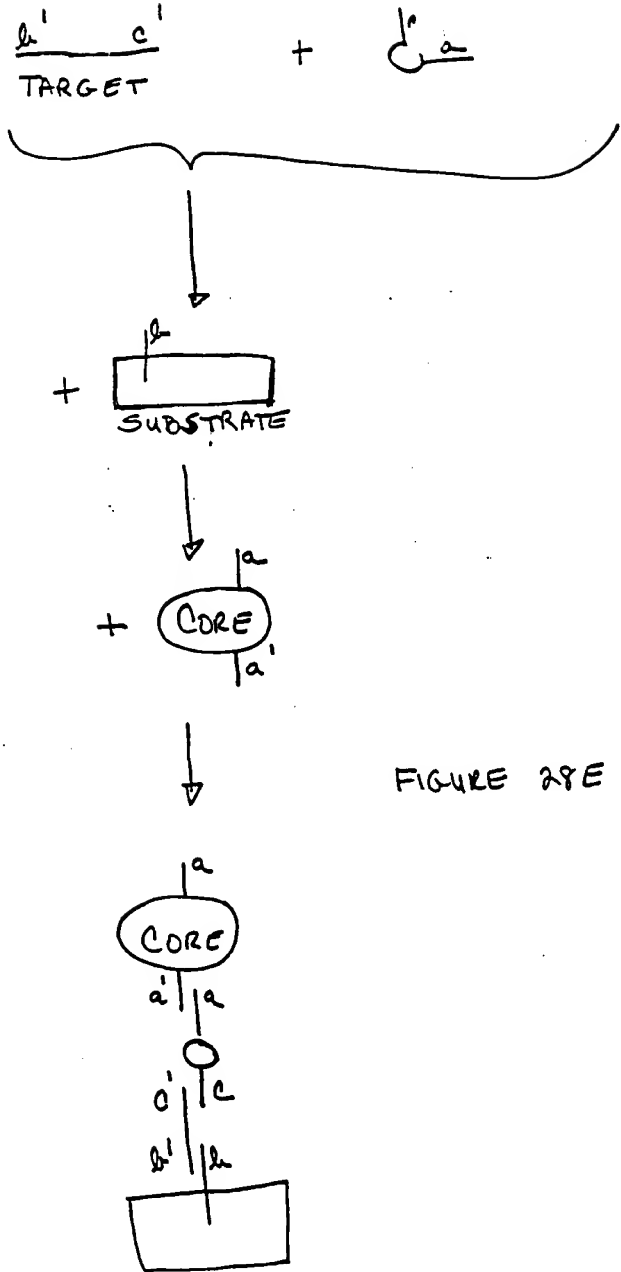


FIGURE 28E

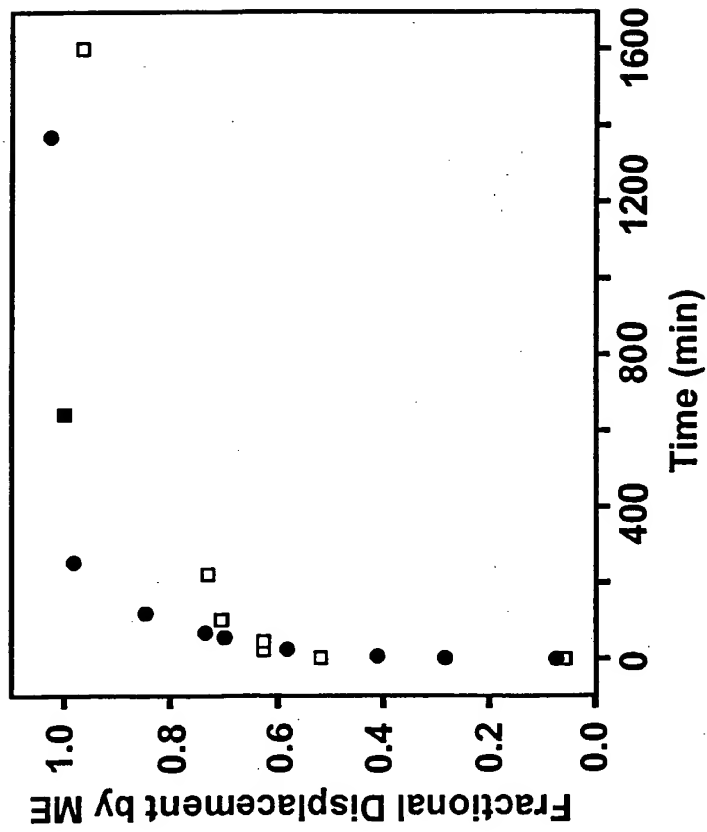


Figure 29

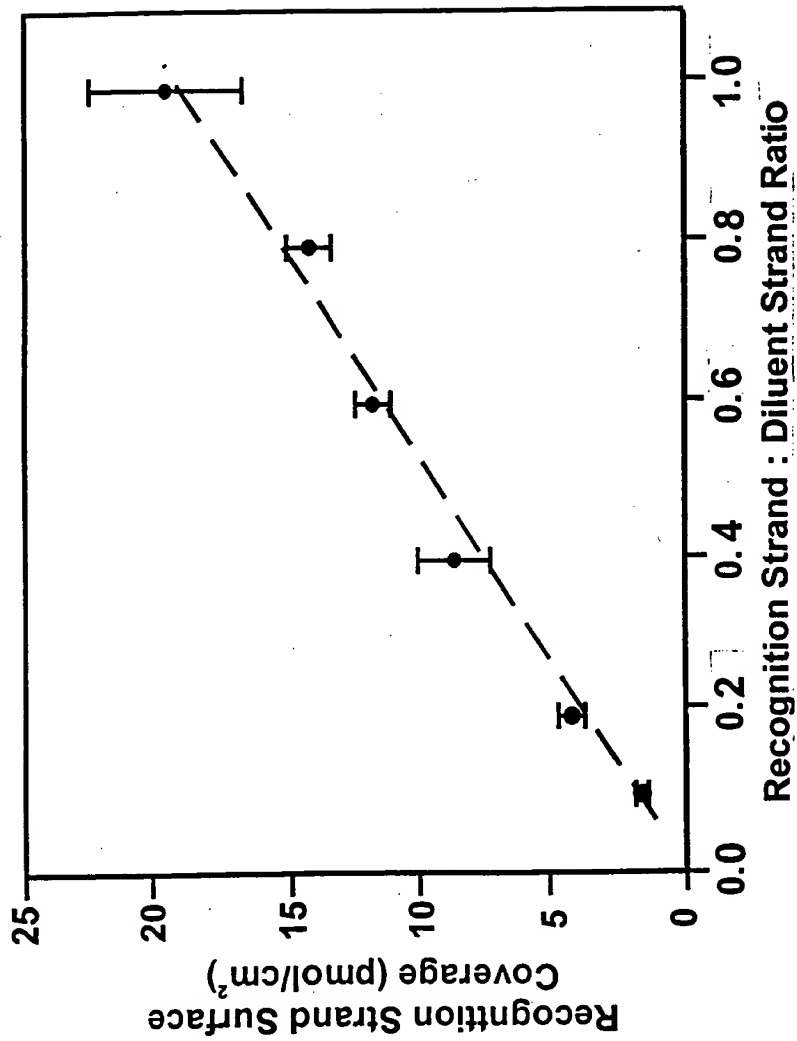


Figure 30

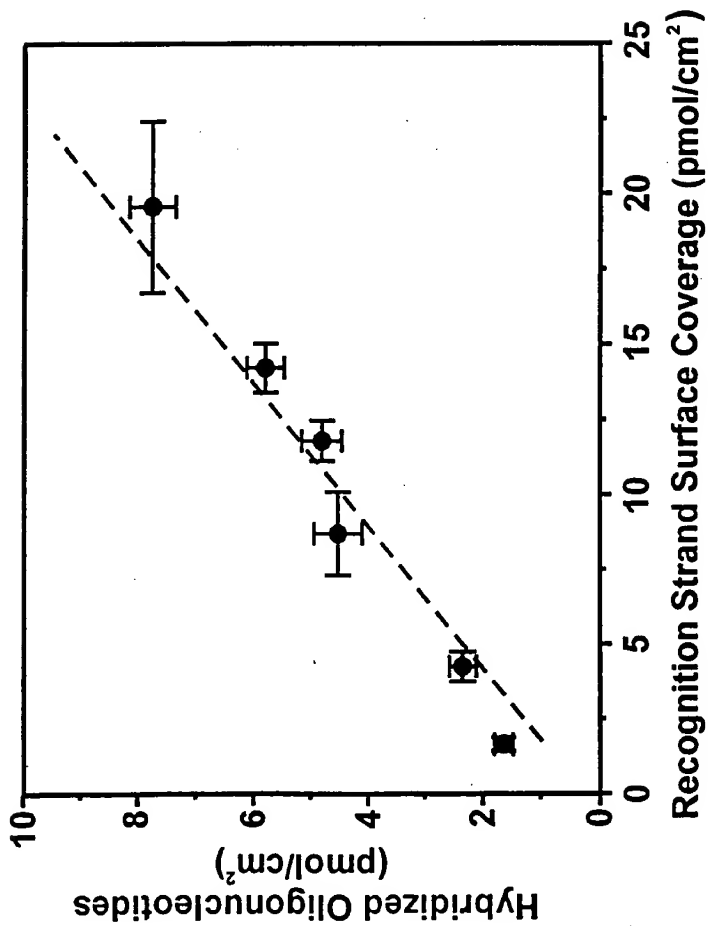


Figure 31

[SEQ ID NO:56]

5' GGA TTA TTG TTA---AAT ATT GAT AAG GAT 3'

CCT ANT AAC AAT TTA TAA CTA TTC CTA

[SEQ ID NO:57]

[SEQ ID NO:58]

N = A (complementary),
G,C,T (mismatched)

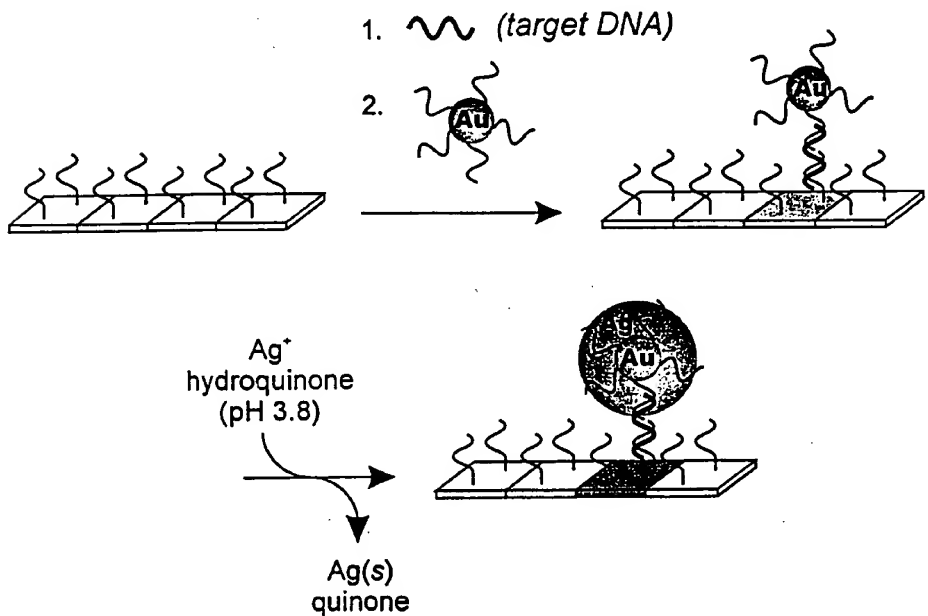


Figure 32

Figure 33

70707-699469

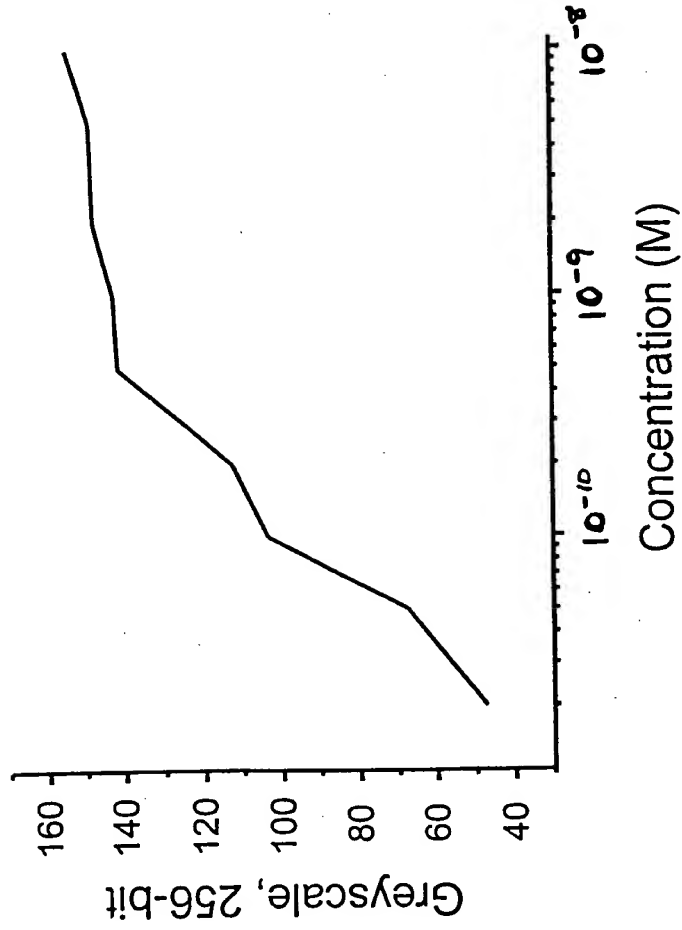


Figure 34

10207-229268

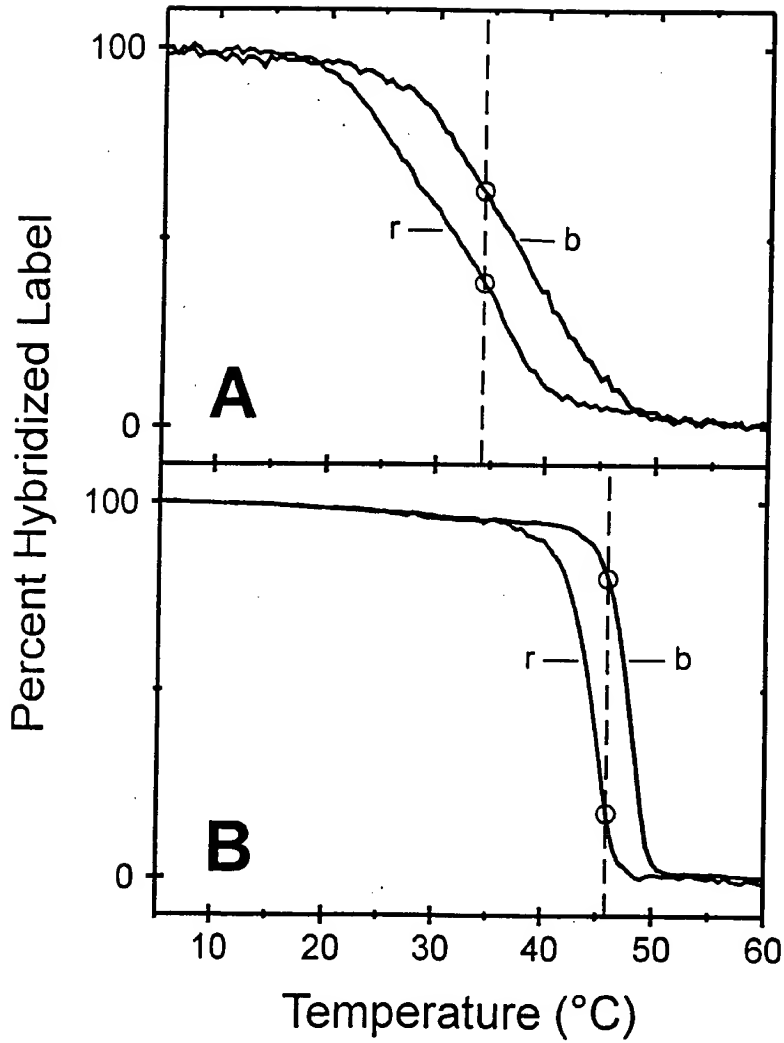


Figure 35

0005003-101204

FIG. 36A

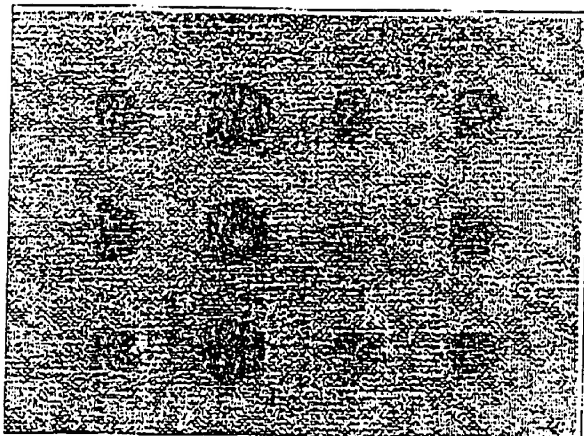
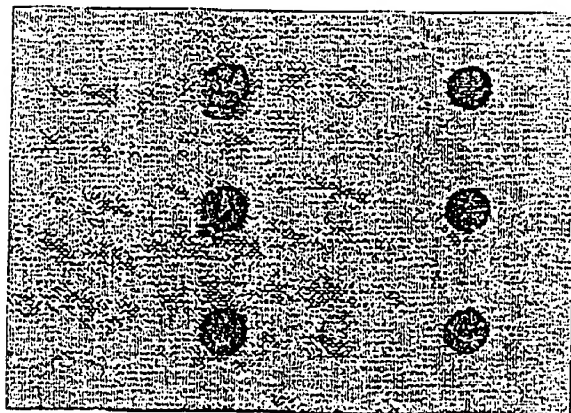
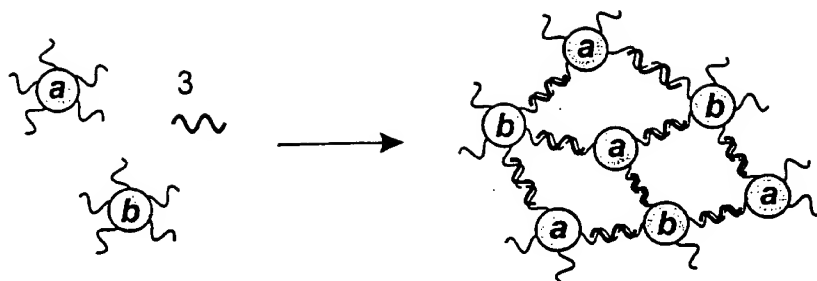


FIG. 36B



C A T G

A



B

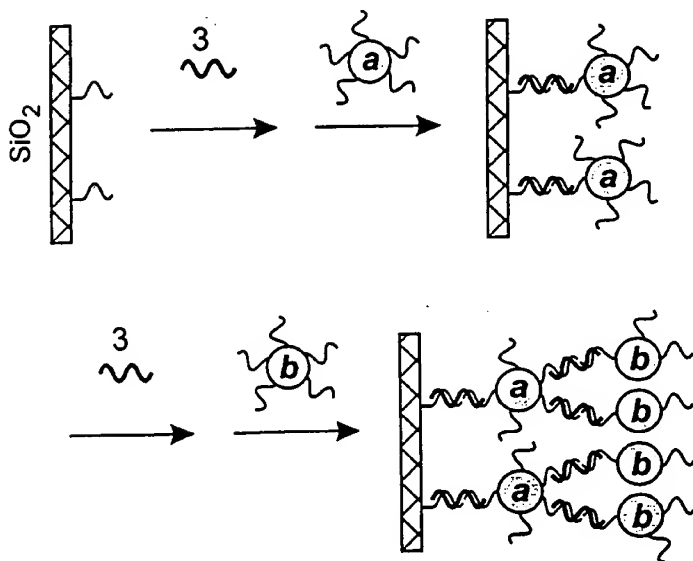


Figure 37

20240722 09:00

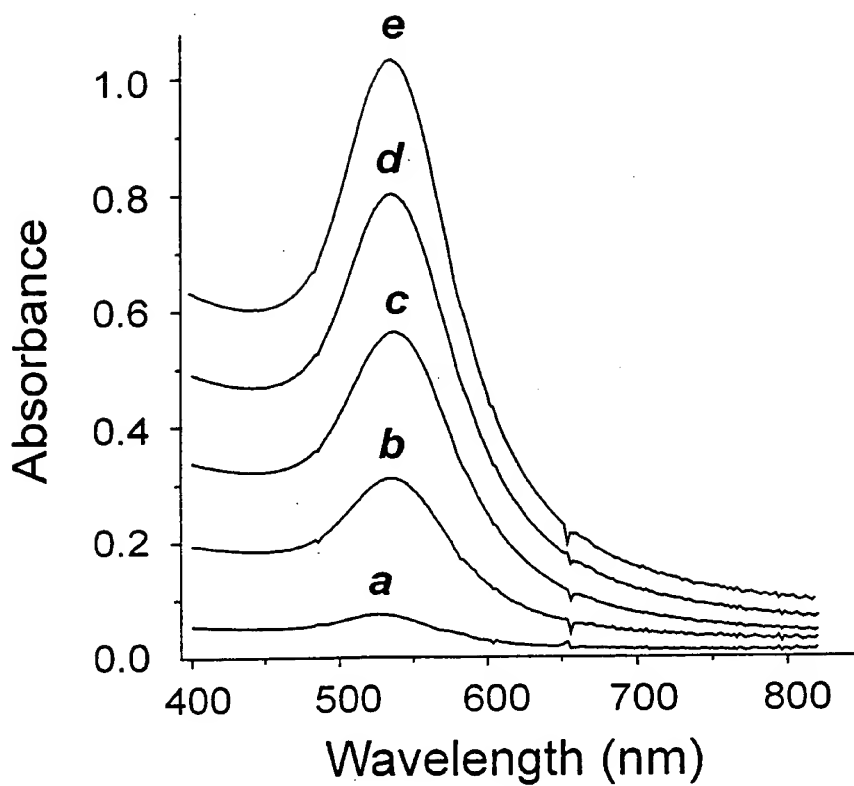


Figure 38A

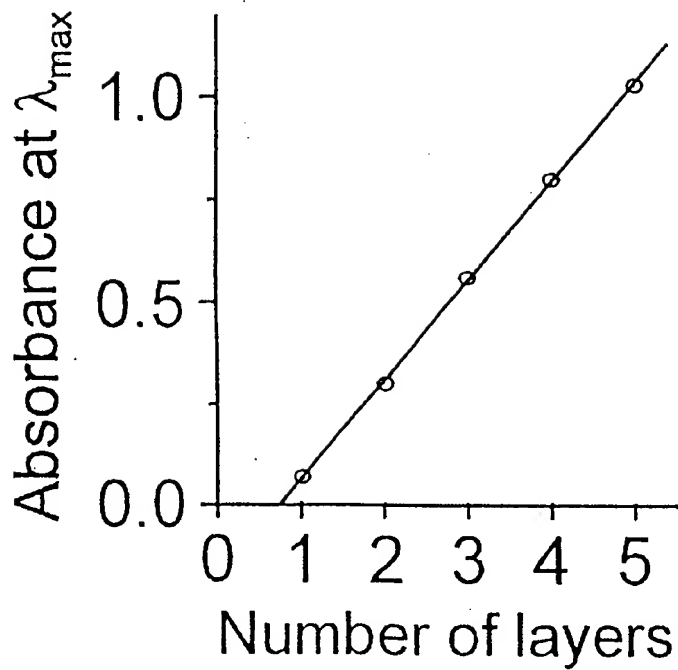


Figure 38B

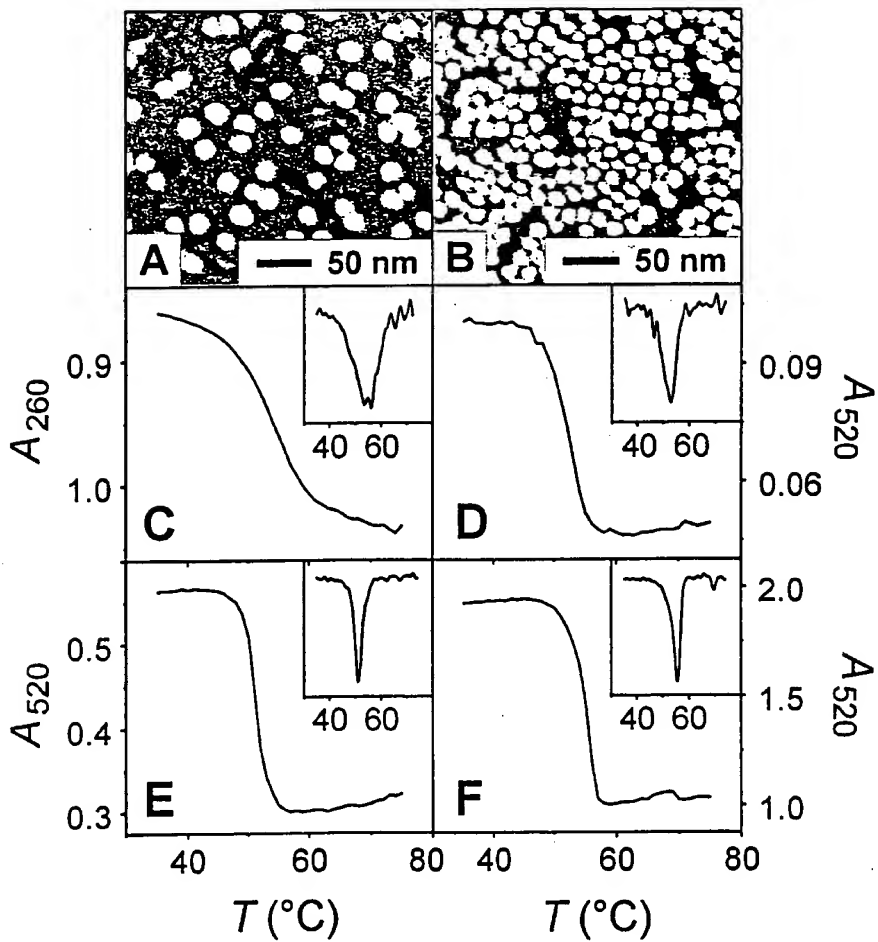


Figure 39

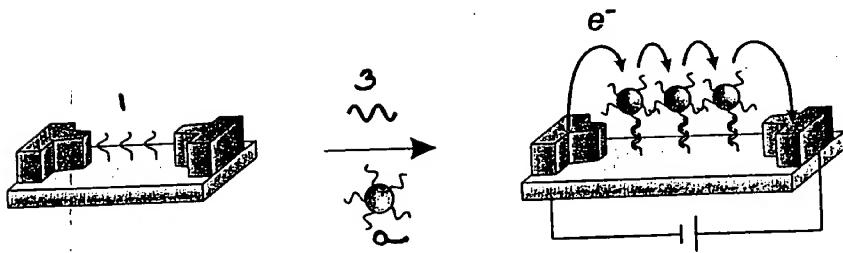
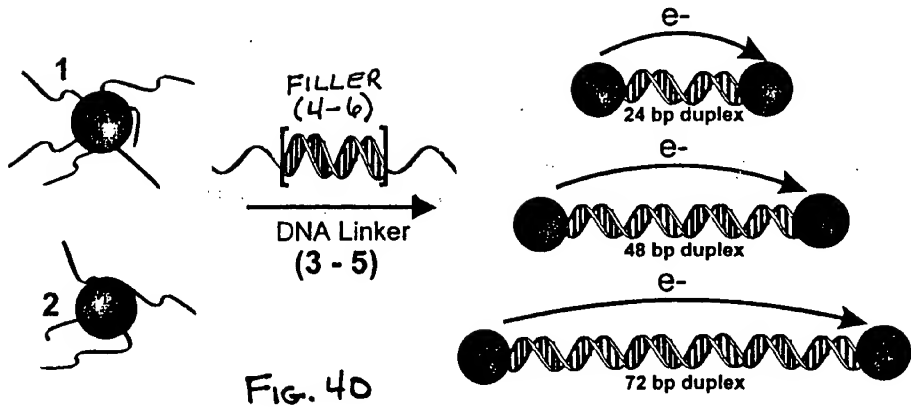


FIG. 41